

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

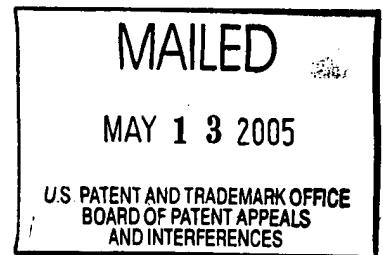
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte THOMAS NAHRWOLD

Appeal No. 2005-0553  
Application 09/888,478

HEARD: May 4, 2005



Before FRANKFORT, McQUADE, and NASE, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 and 3 through 20, all of the claims remaining in the application. Claim 2 has been canceled.

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Appellant's invention relates to an axle assembly for motor vehicles through which power is transmitted from an engine drive shaft to axle shafts (see Figures 1 and 2) and, more particularly, to a system for circulating and cooling hydraulic lubricant used in such an axle assembly wherein an oil/lubricant cooler (100) is mounted on an exterior of an axle tube of the axle assembly (Figure 4) and oil/lubricant supplied to the cooler returns to the axle assembly reservoir by the effect of gravity flow. Independent claims 1 and 11 are representative of the subject matter on appeal and a copy of those claims can be found in the Appendix to appellant's brief.

The prior art references relied upon by the examiner in rejecting the appealed claims are:

Gabelli et al. (Gabelli)	4,854,748	Aug. 8, 1989
Baedke et al. (Baedke)	5,316,106	May 31, 1994

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Claims 1, 3 through 5, 9 through 15, 19 and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Baedke.<sup>1</sup>

Claims 6 through 8 and 16 through 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable Baedke in view of Gabelli.

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted rejections and the conflicting viewpoints advanced by the examiner and appellant regarding those rejections, we make reference to the final rejection (mailed July 21, 2003) and the examiner's answer (mailed March 5, 2004) for the reasoning in support of the rejections, and to appellant's brief (filed December 22, 2003) and reply brief (filed May 5, 2004) for the arguments thereagainst.

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<sup>1</sup> Claim 3 is currently designated as depending from canceled claim 2. For purposes of this appeal, we will assume claim 3 is to be dependent from claim 1, since the limitations of claim 2 were incorporated into claim 1 in the amendment filed May 14, 2003, which also canceled claim 2. During any further prosecution of the application before the examiner, this informality should be corrected.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by appellant and the examiner. As a consequence of our review, we have made the determinations which follow.

With regard to the rejection under 35 U.S.C. § 102(b) based on Baedke, the examiner has indicated that Baedke discloses a system like that claimed by appellant for circulating lubricant in an axle assembly wherein, in pertinent part, the system includes an oil or lubricant cooler (16, 17) disposed outside a housing (12) which is adapted to contain a reservoir of hydraulic lubricant, and wherein the housing includes first and second axle tubes (44, 46) extending outward in opposite directions from the reservoir.

Concerning independent claims 1 and 11, appellant contends (brief, pages 7-9) that the examiner has improperly interpreted the housing extensions or trunnions (44, 46) of Baedke as being "axle tubes" and that the examiner's interpretation of the claimed "axle tube" terminology is contrary to the notoriously

well known definition used by those of skill in the art. More particularly, appellant urges that the term "tube" is associated with an element that "is usually narrow in relation to its length," and that the elements (44, 46) of Baedke are small trunnions and not tubes (brief, page 8). Appellant also points out that the Baedke patent itself describes the elements (16, 17) therein as "axle tubes" (e.g., col. 3, line 59, col. 3, lines 65-66, and col. 4, lines 4-5). In light of the foregoing, appellant concludes that Baedke fails to disclose or teach a lubricant or oil cooler disposed "outside of said housing" (claim 1) or mounted on an "axle tube" (claim 11).

We direct attention to Figures 2-4 of Baedke and to column 3, lines 20-23, where it is indicated that the axle carrier assembly (12) includes "laterally directed tubular extensions 44, 46, which receive therein the ends of housing tubes 16, 17, respectively." Figures 1 and 2 of the patent evidence that left and right axle shafts (20) extend outwardly from the vicinity of the reservoir of the axle carrier assembly from tubular extensions (44, 46) and through housing or axle tubes (16, 17), respectively. As is further made clear in column 3, line 40, thru column 4, line 10, hydraulic lubricant (60) is fed from the reservoir to chamber (66) by rotation of ring gear (42) and from

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there, via conduits (72, 74), to an area near the outer ends of the axle tubes (16, 17), whereupon the lubricant enters the axle tubes through fittings (80, 82) and flows inboard along the tubes through the extensions (44, 46) of the axle housing, and returns to the housing reservoir. Cooling of the lubricant is described in the following manner in column 4, lines 3-10 of Baedke,

As the vehicle moves, a substantial high speed airstream passes over the external surfaces of the axle tubes 16, 17. Heat passes through the walls of the tubes to the airstream, thereby producing a substantial reduction in temperature of the lubricant in comparison to the temperature of the lubricant in an identical system that provides no circulation of lubricant through conduits and axles tubes.

Like appellant, it is our opinion that the examiner has essentially ignored both the teachings of Baedke and that found in appellant's own application concerning what one of ordinary skill in the art would have understood to be an "axle tube" in the environment of the present application. Both appellant and Baedke make clear that the elongated tubes (16, 17) extending outwardly in opposite directions from the centrally located reservoir housing of the axle carrier assembly (12) are "axle tubes," while the elements (44, 46) are merely short tubular extensions of the central housing which allow the ends of the axle tubes (16, 17) to be received therein. In Baedke, the axle tubes (16, 17) also act as the oil cooler, but in our opinion

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this does not somehow make the minor extensions (44, 46) of the central housing "axle tubes," as that terminology would have been understood by one of ordinary skill in the art at the time of appellant's invention. In the final analysis, we find that it is unreasonable for the examiner to "interpret" the recited "axle tubes" of the claims on appeal as reading on elements (44, 46) of Baedke.

Before the USPTO, when evaluating claim language during examination of an application, the examiner is required to give the terminology of the claims its broadest reasonable interpretation consistent with the specification, and to remember that the claim language cannot be read in a vacuum, but instead must be read in light of the specification as it would be interpreted by one of ordinary skill in the pertinent art. See In re Sneed, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983); In re Bond, 910 F.2d 831, 833, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990) and In re Morris, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997).

Thus, Baedke does not anticipate the lubricant cooling system of independent claims 1 and 11 on appeal, or that of claims 3 through 5, 9, 10, 12 through 15, 19 and 20 which depend

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therefrom. For that reason, we will not sustain the examiner's rejection of claims 1, 3 through 5, 9 through 15, 19 and 20 under 35 U.S.C. § 102(b) as being anticipated by Baedke.

Regarding the rejection of claims 6 through 8 and 16 through 18 under 35 U.S.C. § 103(a) as being unpatentable over Baedke and Gabelli, we share appellant's view that neither Gabelli nor Baedke suggest or provide any motivation for modifying the gravity driven lubricant circulating system of Baedke by adding a dump valve like that seen at (6) of Gabelli to the chamber (66) of Baedke for controlling flow of the lubricant to the cooler/axle tubes (16, 17) therein. Moreover, even if such a valve were to be added to the chamber (66) in the lubricant circulating system of Baedke, such a modification would not supply or otherwise account for the deficiencies in Baedke already noted in our discussion of the § 102(b) rejection above. Thus, we will not sustain the examiner's rejection of dependent claims 6 through 8 and 16 through 18 under 35 U.S.C. § 103(a).

To summarize: the rejections under 35 U.S.C. § 102(b) and under 35 U.S.C. § 103(a) as posited by the examiner have not been sustained. Thus, the decision of the examiner rejecting claims 1 and 3 through 20 of the present application is reversed.

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In addition to the foregoing, we find it necessary to REMAND this application to the examiner under 37 CFR § 41.50 for consideration of the following issues:

- 1) During any further prosecution of the application, the examiner should ensure correction of the dependency of claim 3 as noted in footnote 1 above.
- 2) The examiner should also consider whether the "conduit means" recitations in claim 1, particularly that in the last clause reciting that the earlier set forth "conduit means" includes "first and second conduits . . ." creates an indefiniteness situation. In particular, since the first recitation of a "conduit means" in lines 11-14 of claim 1 seems to be limited to the conduit (72) in Figure 4, it is unclear how the "second conduit" set forth in line 18 of claim 1 can also be part of the "conduit means" previously recited and it is unclear exactly how the belatedly recited "second conduit" interacts with the remainder of the system otherwise defined in claim 1.
- 3) The examiner should also look to claim 5 and determine if that claim is indefinite. Claim 5 depends from claim 1 and recites that the cooler in claim 1 "is mounted on an exterior of

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an axle tube extending from said housing." But, claim 1 already specifically recites that "the housing includes first and second axle tubes extending outwardly . . . from the reservoir." Thus, how can the axle tube of claim 5 be said to extend "from said housing," when the axle tubes are part of the housing.

4) The examiner should also look to claim 15, which depends from independent claim 11, since it appears that there is no proper antecedent basis for "said housing" set forth in line 2 of claim 15.

REVERSED AND REMANDED

*Charles E. Frankfort*  
CHARLES E. FRANKFORT )

Administrative Patent Judge )

*John P. McQuade*  
JOHN P. MCQUADE )

Administrative Patent Judge )

BOARD OF PATENT  
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